REPORT PS-G
ELECTRICAL LOAD SCATTER PLOT

In this scatter plot the ordinate, shown in the left-most column, is the electrical demand divided into 13 bins which range from zero to just above the peak electrical demand. The abscissa shown at the top is the hour of the day. Entered in each cell of the plot is the number of days during the year for which the electrical demand was less than the ordinate shown but larger than the next lower ordinate at that hour of the day.

The right-most column is the sum of the entries in each row and shows the frequency of the electrical demand throughout the run period.

The bottom row shows the distribution of electrical demand for each hour of the average day. The number here is the electrical consumption for the run period for a *particular* hour of the day divided by the total electrical consumption for *all hours of the day* for run period.

The chart at the bottom is a breakdown of the peak electrical demand into the contributing components. The SYSTEMS LOAD includes the lighting and equipment electrical loads from LOADS as well as that from system fans.

TOTAL HOURS AT HOURLY DEMAND AND TIME OF DAY

	HOUR	1AM	2	3	4	5	6	7	8	9	10	11	12	1PM	2	3	4	5	6	7	8	9	10	11	12	TOTAL
	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2
	37	0	0	0	0	0	0	0	0	2	1	2	2	1	3	6	5	3	3	0	0	0	0	0	0	28
	34	0	0	0	0	0	0	0	0	0	2	5	4	2	6	8	9	9	6	0	0	0	0	0	0	51
	31	0	0	0	0	0	0	0	0	4	4	4	5	7	13	23	24	14	13	0	0	0	0	0	0	111
D	28	0	0	0	0	0	0	0	0	8	11	14	20	15	26	26	27	28	31	0	0	0	0	0	0	206
E	25	0	0	0	0	0	0	0	2	13	23	33	30	30	22	16	14	22	22	0	0	0	0	0	0	227
M K	21	0	0	0	0	0	0	0	2	23	21	11	10	17	12	9	8	11	10	0	0	0	0	0	0	134
A W	18	0	0	0	0	0	0	0	3	19	13	32	17	14	14	14	15	11	9	0	0	0	0	0	0	161
N	15	0	0	0	0	0	0	0	8	146	151	136	138	99	110	128	111	62	65	0	0	0	0	0	0	1154
D	12	0	0	0	0	0	0	0	9	37	26	15	26	67	46	21	38	92	93	0	0	0	0	0	0	470
	9	0	0	0	0	0	0	0	41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	41
	6	9	9	14	10	13	11	15	104	5	4	5	5	4	3	4	5	4	4	260	5	6	8	8	8	523
	3	356	356	351	355	352	354	350	196	108	109	108	108	109	110	109	108	109	109	105	360	359	357	357	357	5652
	PERCENT TOTAL DEMAND	0.4	0.4	0.4	0.4	0.4	0.4	0.5	2.5	8.1	8.4	8.8	8.8	8.3	8.9	9.5	9.3	8.8	8.7	3.1	1.6	0.9	0.4	0.4	0.4	

PEAK ELECTRICAL LOAD BREAKDOWN

SOURCE	KW	PCT
SYSTEMS LOAD	18.322	46.8
CIRCULATION PUMPS	0.711	1.8
HERM-REC-CHLR	20.155	51.4
TOTAL	39.188	

REPORT BEPS
BUILDING ENERGY PERFORMANCE SUMMARY

This report makes it possible to quickly review annual building energy use according to energy type (ELECTRICITY, NATURAL-GAS, etc.) and category of use (AREA, LIGHTS, SPACE, HEAT, etc.). The energy types shown are those that you have specified with the ENERGY-RESOURCE command in PLANT (see "Energy Meters in PLANT", p.4.3). The categories of use (also called energy end uses) are defined under "Metering and Reporting of Energy End Uses" in the section "Energy End Uses and Meters" p.3.4.
Only categories of use with non-zero consumption are shown.

TOTAL SITE ENERGY
is the overall energy use *at the building site* for all energy types and categories of use.

TOTAL SOURCE ENERGY
is the energy use at point of production; it is obtained by dividing site energy use by the user-specified SOURCE-SITE-EFF value in the ENERGY-RESOURCE command.

Site and source energy are given per unit of net area (the sum of the floor areas of conditioned zones) and per unit of gross area (the value of GROSS-AREA in the BUILDING-LOCATION command in LOADS, which defaults to net area).

It should be pointed out that this report is not designed to work when there is a steam turbine among the specified plant equipment items. The numbers reported when a steam turbine is present will not be reliable.

When a hot storage tank is present, a note is printed on the BEPS report stating that the hot water storage tank can get energy from many sources. Any time there is residual energy in the storage tanks, the totals in the BEPS report will not agree with those in report PS-B, because the BEPS report includes only the energy used for the above categories, whereas PS-B includes the energy that is left in the tanks as well.

ENERGY TYPE: UNITS: MBTU	ELECTRICITY	NATURAL-GAS
CATEGORY OF USE		
AREA LIGHTS	74.7	0.0
MISC EQUIPMT	35.9	0.0
SPACE HEAT	9.0	191.1
SPACE COOL	27.9	0.0
HEAT REJECT	5.7	0.0
PUMPS & MISC	5.3	0.0
VENT FANS	14.3	0.0
TOTAL	172.8	191.1

TOTAL SITE ENERGY	363.93 MBTU	72.8 KBTU/SQFT-YR GROSS-AREA	72.8 KBTU/SQFT-YR NET-AREA
TOTAL SOURCE ENERGY	709.67 MBTU	141.9 KBTU/SQFT-YR GROSS-AREA	141.9 KBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 1.7
PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE: ENERGY IS APPORTIONED HOURLY TO ALL END-USE CATEGORIES.

REPORT ES-D
ENERGY COST SUMMARY

This report summarizes the yearly energy consumption and cost for all UTILITY-RATEs defined.

1. UTILITY-RATE
   lists the u-name of each UTILITY-RATE

2. RESOURCE
   lists the RESOURCE

3. METERS
   lists the meter numbers to which each UTILITY-RATE applies.

4. METERED ENERGY
   is the actual metered energy from PLANT, not adjusted for any minimum energy requirements.

5. TOTAL CHARGE
   is total yearly charge.

6. VIRTUAL RATE
   is the total yearly charge divided by the metered energy.

7. RATE USED ALL YEAR
   if NO, the rate was not used for all 12 billing cycles, either because the rate did not qualify all months, the QUAL-SCH was not active all months, or the run period was less than 12 months.

8. ENERGY COST/ GROSS BLDG AREA
   ENERGY COST/ NET BLDG AREA
   give the energy cost per unit area. Here, gross building area is the value of the keyword GROSS-AREA in the BUILDING-LOCATION command in LOADS. GROSS-AREA defaults to the net building area, which is the sum of the floor areas of the conditioned zones.

The program does a check to ensure that all energy passed from PLANT is accounted for in one or more UTILITY-RATEs. If not, or if double counting of energy has occurred, a warning will be printed at the bottom of this report.

UTILITY-RATE	RESOURCE	METERS	METERED ENERGY UNITS/YR	TOTAL CHARGE ($)	VIRTUAL RATE ($/UNIT)	RATE USED ALL YEAR?
ELEC-TARIFF	ELECTRICITY	1 2 3 4 5	50644. KWH	3223.	0.0636	YES
GAS-RATE	NATURAL-GAS	1 2 3 4 5	1911. THERMS	1146.	0.6000	YES
				4369.		

ENERGY COST/GROSS BLDG AREA: 0.87
ENERGY COST/NET BLDG AREA: 0.87

REPORT ES-E
SUMMARY OF UTILITY-RATE: U-NAME

This report summarizes the key costs for each UTILITY-RATE. The top of the report contains general information regarding the UTILITY-RATE as input by the user or defaulted. The remainder of the report summarizes costs by month.

1. MONTH
   is the billing period ending with the BILLING-DAY.

2. METERED ENERGY
   is the energy in the meters as passed by the PLANT program.

3. BILLING ENERGY
   is the energy used for billing purposes. This amount may be greater than the metered energy if a minimum energy qualifier is used. This amount will be 0.0 if the UTILITY-RATE did not qualify for this month.

4. METERED DEMAND
   is the maximum demand in the meters in this billing period as passed by the PLANT program. The value will be either the hourly or daily demand as specified by the DEMAND-WINDOW.

5. BILLING DEMAND
   is the demand used for billing purposes. This amount may be either greater or less than the metered demand depending on the minimum demand qualifier and/or ratchets. This value will be 0.0 if the UTILITY-RATE did not qualify for this month.

6. ENERGY CHARGE
   are all energy charges, including BLOCK-CHARGEs.

7. DEMAND CHARGE
   are all demand charges, including BLOCK-CHARGEs.

8. ENERGY CST ADJ
   are the energy cost adjustment.

9. TAXES
   are the sum of per unit and percentage taxes

10. SURCHARGES
    are the sum of per unit and percentage surcharges

11. FIXED CHARGE
    are the MONTH-CHGS defined by the user.

12. MINIMUM CHARGE
is the minimum monthly charge as determined by the MIN-MON-CHG or the MIN-MON-DEM-CHG.

13. VIRTUAL RATE
is the total charge divided by the metered energy. This rate should not exceed the RATE-LIMITATION plus fixed charges.

14. TOTAL CHARGE
is the sum of all charges.

UTILITY-RATE: ELEC-TARIFF

RESOURCE: ELECTRICITY
METERS: 1 2 3 4 5
POWER-FACTOR: 0.80
DEMAND-WINDOW: HOUR
BILLING-DAY: 31
EXCESS-KVAR-FRAC: 0.30
3413. BTU/KWH
RATE-LIMITATION: 0.0000
EXCESS-KVAR-CHG: 0.0000

RATE-QUALIFICATIONS

MIN-ENERGY: 0.0
MAX-ENERGY: 0.0
MIN-DEMAND: 0.0
MAX-DEMAND: 0.0
QUALIFY-RATE: ALL-MONTHS
USE-MIN-QUAL: NO

BLOCK-CHARGES

DEMAND-RATCHETS

MIN-MON-RATCHETS

MONTH	METERED ENERGY KWH	BILLING ENERGY KWH	METERED DEMAND KW	BILLING DEMAND KW	ENERGY CHARGE ($)	DEMAND CHARGE ($)	ENERGY CST ADJ ($)	TAXES ($)	SURCHRG ($)	FIXED CHARGE ($)	MINIMUM CHARGE ($)	VIRTUAL RATE ($/UNIT)	TOTAL CHARGE ($)
JAN	3918	3918	16.2	16.2	245	0	0	0	0	0	0	0.0624	245
FEB	3334	3334	16.1	16.1	208	0	0	0	0	0	0	0.0625	208
MAR	3378	3378	15.8	15.8	212	0	0	0	0	0	0	0.0629	212
APR	3417	3417	22.2	22.2	218	0	0	0	0	0	0	0.0637	218
MAY	3857	3857	28.4	28.4	247	0	0	0	0	0	0	0.0641	247
JUN	4934	4934	33.8	33.8	318	0	0	0	0	0	0	0.0644	318
JUL	6990	6990	39.2	39.2	448	0	0	0	0	0	0	0.0641	448
AUG	6351	6351	36.0	36.0	408	0	0	0	0	0	0	0.0642	408
SEP	4196	4196	30.7	30.7	270	0	0	0	0	0	0	0.0643	270
OCT	3519	3519	19.8	19.8	225	0	0	0	0	0	0	0.0639	225
NOV	3099	3099	21.1	21.1	196	0	0	0	0	0	0	0.0631	196
DEC	3651	3651	15.8	15.8	229	0	0	0	0	0	0	0.0626	229
TOTAL	50644	50644	39.2		3223	0	0	0	0	0		0.0636	3223

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